

ON BORDER-LINE DIRCENNA (LEPIDOPTERA, ITHOMIINÆ)

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The following little group of species has been standing in our lists as *Episcada* and *Pteronymia*, but is obviously much closer to the *lenca* group, generally considered a section of *Dircenna*. We have long recognized them as a distinct group, not specially related to *Episcada* and *Pteronymia*, but held off because the Cornell collection only contained a single damaged male. Males of two more species in the American Museum of Natural History show that the group is a sound one. Superficially they look a little like some of the aberrant *Dircennas*, but not at all like the typical and *lenca* groups. They may be distinguished from all the other *Ithomiinæ* known to me by the lower discocellular of fore wing being angulated far below its middle, with vertical upper sector.

Hyalenna, new genus

General characters of *Ithomia* and *Dircenna*, as given by Staudinger and Schatz (*Exotische Tagfalter, Familien und Gattungen* 95, 96). Sides of thorax with shaggy bands of long hair as in normal *Dircenna*, unlike the majority of the *Ithomia* group; first two segments of abdomen lightly hairy. Fore wing normal except the closure of the cell; mdev long and erect; ldev not longer, right-angled and bearing the medial spur well below its middle, the upper half continuing the geacral line of mdev. Hind wing of male with Sc closely parallel to cell for a distance at base, then diverging to enclose a long-fusiform sex-patch, but again approaching beyond it and fading out before end of discal cell, hair pencil toward base of cell only; udev very short and oblique out, mdev moderate, oblique in, ldev much longer, angulate and bearing the M-spur, its upper sector rather short and oblique in, the lower oblique out and convex outward. Female hind wing with Sc and R closely parallel for nearly half length of cell, Sc then diverging and ending rather beyond end of cell; discocellulars about as in male, but upper even shorter; hum in both sexes recurrent to basal angle, simple or with slight vestige of the outer branch. Male fore leg with tibio-tarsus a knob, densely hairy; female (Fig. 5) with fifth segment markedly developed and first three segments spined, essentially as in "*D.*" *lenca* (Fig. 4). Scaling of wings slight, mostly limited to veins and decidedly narrow borders.

This genus will run in Fox's male key (Trans. Am. Ent. Soc., lxvi, 169, 1940) to *Dircenna*, from which it differs by the ldev of fore wing and different appearance. The female will run to alternative 7, but the length of M-spur and exact length of the closely parallel portions of Sc and R are variable and it may run to *Dircenna*, *Corbulis* or *Oleria*; from all of these it differs by the ldev of fore wing, and from *Oleria* by the different course of R of hind wing.

The male genitalia are essentially as in *D. lenea*: uncus and valves simple; costa not much enlarged, penis simple (though not lengthened as in the *lenea* group) but with a large triangular gnathos (subscaphium) as in others of the *Dircenna* group; it will run in Kremky's key (Ann. Zool. Mus. Pol. Hist. Nat., iv, 181, 1925) to *Episcada*, as will also *D. lenea*.

KEY TO SPECIES

1. Fore wing with a yellow bar at end of cell, extending down to M_3 , very broad, and including the parts of the veins crossing it *alidella*
- Fore wing with pm band whitish or white, and cutting R_s and M_1 very shortly, or obsolete, never cutting M_2 2
2. Outer part of transparent ground as seen against a dark background with a series of 5 whitish shades in interspaces just before border; border brown 3
- A small whitish spot in cell M_3 and minute one in Cu_1 only; border black *teresita*
3. Border of hind wing below plain light tawny; expanse 70 mm. *perasippe*
- Border of hind wing below with four white submarginal spots, the first in female rounded, the rest linear, all inconspicuous in male; expanse 60 mm. *maculata*

CATALOGUE OF SPECIES

(For further bibliography see Bryk, Lep. Cat., lxxx, 1937.)

alidella Hew. (*Ithomia*) Ill. Exot. Butt., iv, *Ithomia*, 27: 174, 1869; Weymer Berl. Ent. Zeit., xlv, 308, 1899 (to *Episcada*); Haensch, Berlin Ent. Zeit., xlviii, 197, 1903 (to *Pteronymia*).
Colombia

a. dirama Hsch. Berl. Ent. Zeit., l, 172, 5: 19: 1905 (as sp. of *Episcada*); Seitz, v, 39: fl.¹
Bolivia

¹ Not seen and no characters given to distinguish it from typical *alidella*; presumably a race, as given in Seitz.

teresita Hew. (*Ithomia*) Ill. Exot. Butt., iii, Ithomia, 24: 148, 1863; Hsch. Berl. Ent. Zeit., xlviii, 200, 1903 (to *Pteronymia*); l.c., 1, 172, 1905 (to *Episcada*); Seitz, 40: a5 ♂, b1 ♀² (male genitalia Fig. 1).
Ecuador, Colombia

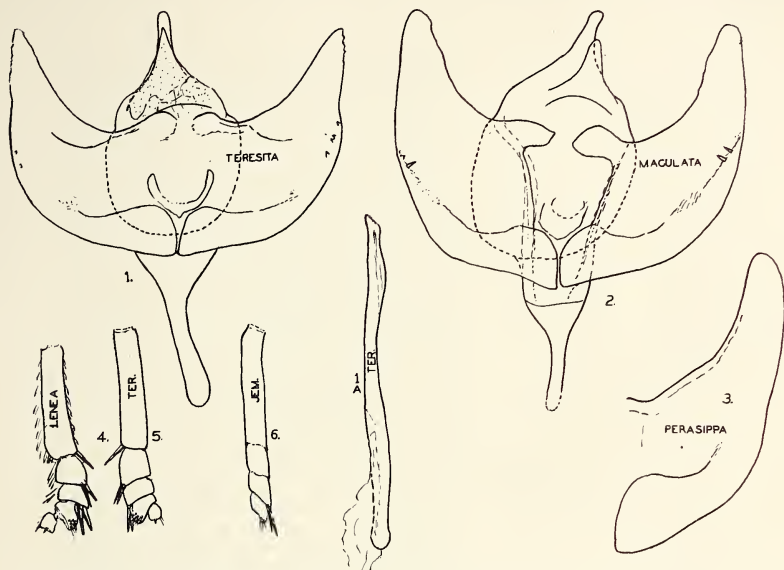


Figure 1. 1. *Hyalenna teresita*, male genitalia, with aedeagus drawn separately (1A); 2. *H. maculata*, male genitalia; 3. *H. perasippe*, male valve; 4. *Dircenna lenca*, female fore tarsus; 5. *Hyalenna teresita*, female fore tarsus; 6. *Dircenna jemina* (genotype), female fore tarsus. All the figures are drawn to the same scale.

perasippe Hew. (*Ithomia*) Equat. Lep., v, 85, 1877; Haensch in Seitz Macrolep. World, v, 151, 39: e6, 1909 (to *Episcada*) (male genitalia Fig. 3).
Ecuador, Colombia

maculata Röber (*Episcada perasippe m.*) Ent. Zeit. (Int. Ent. Ver.), xlv, 21, 1930.³
W. Colombia

² The M-spur is shown in normal position in both Hewitson's and Haensch's figures, but I believe I have the correct species. Still to satisfy the nomenclatorial purists I formally cite as type *perasippe* as figured in this paper.

³ The original description is rudimentary, but mentions the white marginal spots. The male genitalia (Fig. 2) show it is a distinct species, and we have both from Pacho, Colombia.

THE LENEA GROUP

Dircenna lenea (Fig. 4) and a few related species differ from *jemina* (the genotype) and several other species in lacking the four-segmented tarsus (Fig. 6), given as a chief character for the genus by both Schatz and Fox. But it should be noted that while

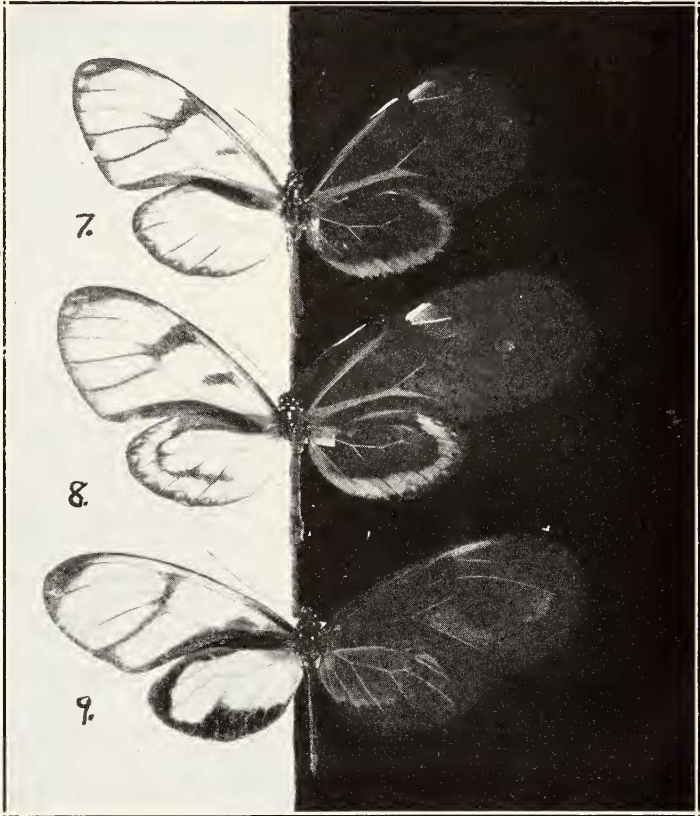


Figure 2. 7. *Dircenna chloromeli*, holotype ♀; 8. *D. chloromeli*, allotype ♀; 9. *Dircenna rufa*, holotype ♀.

jemina is doubtless validly chosen as the genotype, Doubleday in the original description gave the tarsus as five-segmented and included the *lenea* group.

For the moment I refer only to the species which have a black, tawny or smoky triangle in the cell instead of a transverse bar

(only faintly visible in ♂ *methonella*), although some further species have the five-segmented tarsus. It is possible these should be transferred to Hyalenna. Bryk divided them erratically between Dircenna and Epithomia, putting *xantho* with its more familiar race *methonella* in the latter and *hulda* with them, though the remaining forms of *lenea*, and *pulcheria* remain in Dircenna. Perhaps this whole group should be transferred to Hyalenna, but on superficial structures it is a Dircenna. I have not studied *pulcheria*, which should belong here, and have seen nothing like *hulda*, which should be a suffused type, more extreme than a couple of females of *lenea drogheda* which we have from Venezuela. The residue will key as follows:

1. Abdomen with a subdorsal series of white spots; costal area of hind wing below tawny, heavily defined below with black *lenea*
- Abdomen dorsally wholly blackish, with subventral yellow or white stripes or spots only 2
2. Translucent area rather evenly dull tawny, contrasting with the black borders and markings; tawny of under side of hind wing suffusing up to costal edge *rufa*
- Translucent area yellow or partly shaded with tawny; costa of hind wing below black, with at least a couple of contrasting yellow or white spots (normally a basal yellow spot, a costal streak in male, and two white spots in female) *xantho*

This analysis puts a whole list of supposed "species" as mere races and varieties of *lenea*. In general there are two main types, a northern one with heavy tawny shadings, and no band across the hind wing and a Peruvian one without tawny but with heavy black markings on a honey-yellow ground, including a bar across hind wing at end of cell; in the Amazon basin there is every possible intergrade, with a tendency to have the black and yellow pattern of the Peruvian form but with a tawny subterminal band on hind wing, sometimes visible only on the underside. The names for these three types are: 1, *lenea, hulda, drogheda*; 2, *zelie, epidero; signata* and *obfuscata* belong to the Amazonian types with some submarginal orange. It may be possible to treat some further names as statistical races, e.g., *drogheda* normally has tawny subapically on the under side and very frequently suffused females, but even *zelie* and *signata* have a large blend zone on the middle Amazon (Maués). I have seen a partly tawny form

labelled *zelie*, but the original description calls for black and yellow only, and Bolivia is well out of the range of the tawny forms.

The *xantho* forms are very close to the *lenea* forms but can apparently be separated by the black abdomen; in their black and yellow phases (*zelie* and *methonella*) they can also be separated by the costal pattern below, but we are not sure if this will hold of typical *xantho*. *Methonella* also lacks a densely scaled pale yellow submarginal bar in cell M_3 of fore wing, which is rarely if ever absent in *zelie*, but according to the original description this bar is present in *xantho*.

Dircenna rufa, new species

Head and thorax black, spotted above with white (yellow in typical *lenea*); back of thorax and base of abdomen dusted with yellow, the latter with short white subdorsal stripes, abdomen otherwise solidly smoky above (like *xantho*, unlike all *lenea* forms), beneath with thin yellow subventral stripes, much narrower than in tawny-marked phases of the other species. Antennæ black, with yellow clubs.

Ground of wings translucent tawny, with some yellow sealing not producing any pattern, dominant over the tawny only at costa beyond cell and vaguely before outer margin, where *lenea* forms may have whitish sealing; markings black, not quite opaque; a triangle resting on lower side of cell, a bar across upper angle of cell from costa at base of R to outer margin at Cu_1 , a little widened at upper and lower angles of cell, and widened triangularly at outer margin; the space between it and costa filled with denser tawny sealing; costa blackish above cell to $\frac{1}{3}$, then costal edge only black for a ways, but widening into the black apex. Outer margin narrowly black to Cu_1 , then more widely to anal angle; inner margin black below Cu and Cu_2 ; veins tawny except in the black borders where they are black, including the whole of A, the other veins partly sealed with black where they cross the black markings. Hind wing also transparent tawny, denser along the veins; borders black, fully sealed, the costa black down almost to the M-spur, beyond the cell almost to M_2 , then more narrowly postmedially but widening again to apex, narrowing to half as broad on outer margin in cell M_3 and very broad from there to anal angle, with a cusp running half way in to cell along Cu_1 ; mdev contrasting, tawny, cutting the costal black, the other veins concolorous. Under side similar, the black everywhere more restricted, fore wing with three st. spots at apex, preceded by a tawny dot in fork of R_{4-5} , the triangle in cell wanting; hind wing without any black border above cell, there being only a black bar in base of cell, and the black costa starting at end of cell; outer border with three white dots at apex and four on inner margin, the one in cell M_3 missing. Expanse 65 mm.

Rioja, Moyobamba, Peru, 1 ♀ type in Cornell University collection.

This species may be related to *pulcheria* Hew., but the latter as described has much more complicated markings, suggesting rather a form of *lenea*.

The following species looks much like a *lenea* form, but shows the normal four-segmented tarsus and black bar across the cell of typical *Dircenna*. The tawny border especially suggests *lenea*, but shows no sign of the restriction or interruption in cell M_3 . It looks at first glance like a *Eutresis* or a *Ceratinia*.

***Dircenna chloromeli*, new species**

Male fore tibio-tarsus hairy at tip as in normal *Dircenna*, in one of the two specimens half as long as femur, in the other normal; female with the usual swollen base of tibia, frequent in *Dircenna*. Male hind wing with simple pencil, female with Se and R closely parallel half length of cell, then connected.

Head as well as body spotted with yellow, even with some yellow scaling of coxæ and palpi; abdomen smoky above, pale yellow and cream below.

Ground transparent, very pale yellow; fore wing as seen against a white background with a broad tawny costal stripe to end of cell, and dorsal stripe along base of Cu and out along Cu_2 , besides the extension of the veins; cell bar oblique, rather narrow, resting on R but not crossing cell, blackish; bar at end of cell blackish, extending $\frac{1}{4}$ way to margin in cell M_2 , down along m-cu, and out in vein-strips along M_3 and Cu_1 to margin, followed by a solid yellow bar at costa, which lies wholly above Rs. Costa black, on the basal two thirds hardly more than the costal edge, but abruptly widening beyond the yellow pm bar, much widened over the apex, especially in the female, and continued along outer margin, where it extends in on the veins. Inner margin blackish $\frac{2}{3}$ way in to the cell, and up to Cu beyond the end of the tawny dorsal stripe, sometimes leaving the inner edge tawny; veins basally tawny around cell, including bases of M_3 , Cu_1 and Cu_2 , but A and veins outwardly black. Hind wing with a broad tawny border extending a third way in to cell and inwardly edged with smoky, cell M_3 not specially marked; margin blackish with the white submarginal spots of under side partly showing through; veins mainly tawny with some yellow scales, but blackish about where they cross the black pattern-elements. Costa of male with a smoky streak below the usual sex-scaling, female with the tawny border extending around apex almost to end of cell, the rest of costa amber down almost to M_2 and the M-spur, where it is edged with orange.

Against a dark background part of the translucent ground shows as smoky, leaving the yellow in cell as two separate patches, two rows of spots beyond

cell, the pm. ones large and fused, the st. ones smaller with the one in cell R_5 sometimes absent and that in M_2 more or less completely fused with the post-medial one, only a narrow streak in cell M_3 and the patch in Cu_1 also not nearly filling its cell; hind wing also showing a broad smoky stripe between the yellow disc and the fully scaled border. Under side much the same, fore wing with three or four triangular terminal white spots, hind wing with a complete series much closer to the margin than usual in *Dircenna*, narrowly defined with black, the terminal being a mere line; costa broadly tawny but with a complete black stripe between it and cell.

Pará, Brazil, type male and paratypes male and female in Cornell University collection.

It is hard to believe so striking a species has been overlooked, but I cannot find a description of it. It could possibly be taken for a *Ceratinia* or even a *Pteronymia*.